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AN
ORATION,

DELIVERED FEBRUARY 4, 1774,

BEFORE THE
AMERICAN PHILOSOPHICAL
SOCIETY,

HELD AT
PHILADELPHIA.

CONTAINING,

An Enquiry into the Natural History of MEDICINE
among the INDIANS in NORTH-AMERICA,

AND

A comparative View of their DISEASES and REMEDIES,
with those of civilized NATIONS.

Together with an APPENDIX, containing,
PROOFS AND ILLUSTRATIONS.

By BENJAMIN RUSH, M.D. *R*
Professor of Chemistry in the College of Philadelphia.

Les Hommes se servent toujours de leur yeux pour se conduire, et ils ne servent presque jamais de leur Esprit pour decouvrir la verité. Leur but principal est de scavoir ce qu'il a crû, sans se soucier de ce qu'il faut croire. — MALEBRANCHE.

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SOCIETY

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TO
DR. RICHARD HUCK,
OF LONDON,

THE FOLLOWING
ORATION,
AS A SMALL TRIBUTE TO HIS
ABILITIES AND VIRTUES,

AS A
SCHOLAR,
A
PHYSICIAN,
AND A

GENTLEMAN,

IS INSCRIBED BY HIS

SINCERE FRIEND,

THE AUTHOR.

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A D V E R T I S E M E N T.

M A N Y of the facts contained in the natural history of medicine among the Indians in the following oration, are taken from La Hontan's and Charlevoix's histories of Canada: But the most material of them are taken from persons who had lived, or travelled among the Indians. The author acknowledges himself indebted in a particular manner to Mr. Edward Hand, surgeon in the 18th regiment, who during several years residence at Fort Pitt, directed his enquiries into their customs, diseases, and remedies, with a success that does equal honor to his ingenuity and diligence.

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ORATION, &c.

GENTLEMEN,

I RISE with peculiar diffidence to address you upon this occasion, when I reflect upon the entertainment you proposed to yourselves from the eloquence of that learned member*, whom your suffrages appointed to this honor after the delivery of the last anniversary oration. Unhappy for the interests of literature, his want of health has not permitted him to comply with your appointment. I beg therefore that you would forget for a while, the abilities necessary to execute this task with propriety, and listen with candor to the efforts of a member, whose attachment to the society, was the only qualification that entitled him to the honor of your choice.

THE

* Mr. Charles Thompson,

THE subject I have chosen for this evening's entertainment, is "An enquiry into the natural history of medicine among the Indians in North-America, and a comparative view of their diseases and remedies with those of civilized nations." You will readily anticipate the difficulty of doing justice to this subject. How shall we distinguish between the original diseases of the Indians and those contracted from their intercourse with the Europeans? By what arts shall we persuade them to discover their remedies? and lastly, how shall we come at the knowledge of facts in that cloud of errors, in which the credulity of the Europeans, and the superstition of the Indians have involved both their diseases and remedies? These difficulties serve to increase the importance of our subject. If I should not be able to solve them, perhaps I may lead the way to more successful endeavors for that purpose.

I SHALL first limit the tribes of Indians who are to be the objects of this enquiry, to those who inhabit that part of North-America which extends from the 30th
to

to the 60th degree of latitude. When we exclude the Esquimaux, who inhabit the shores of Hudson's bay, we shall find a general resemblance in the color, manners, and state of society, among all the tribes of Indians who inhabit that extensive tract of country.

CIVILIANS have divided nations into savage, barbarous, and civilized. The savage, live by fishing and hunting. The barbarous, by pasturage or cattle; and the civilized, by agriculture. Each of these are connected together in such a manner that the whole appear to form different parts of a circle. Even the manners of the most civilized nations partake of those of the savage. It would seem as if liberty and indolence were the highest pursuits of man; and these are enjoyed in their greatest perfection by savages, or in the practice of customs which resemble those of savages.

THE Indians of North-America partake chiefly of the manners of savages. In the earliest accounts we have of them, we find them cultivating a spot of ground:

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The maize is an original grain among them. The different dishes of it which are in use among the white people still retain Indian names.

It will be unnecessary to show that the Indians live in a state of society adapted to all the exigencies of their mode of life. Those who look for the simplicity and perfection of the state of nature, must seek it in systems, as absurd in philosophy, as they are delightful in poetry.

BEFORE we attempt to ascertain the number or history of the diseases of the Indians, it will be necessary to enquire into those customs among them which we know influence diseases. For this purpose I shall,

First, Mention a few facts which relate to the birth and treatment of their children.

Secondly, I shall speak of their diet.

Thirdly, Of the customs peculiar to each of the sexes. And,

Fourth,

Fourthly, Of those customs which are common to them both.

I. Of the birth and treatment of their children.

MUCH of the future health of the body depends upon its original stamina. A child born of healthy parents always brings into the world a system formed by nature to resist the causes of diseases. The treatment of children among the Indians, tends to secure this hereditary firmness of constitution. Their first food is their mother's milk. To harden them against the action of heat and cold (the natural enemies of health and life among the Indians) they are plunged every day in cold water. In order to facilitate their being moved from place to place, and at the same time, to preserve their shapes, they are tied to a board, where they lie on their backs for six, ten, or eighteen months. A child generally sucks its mother till it is two years old, and sometimes longer. It is easy to conceive how much vigor their bodies must acquire from this simple, but wholesome nourishment.

ishment. The appetite we sometimes observe in children for flesh, is altogether artificial. The peculiar irritability of the system in infancy, forbids stimulating aliment of all kinds. Nature never calls for animal food till she has provided the child with those teeth which are necessary to divide it. I shall not undertake to determine how far the wholesome quality of the mother's milk is increased by her refusing the embraces of her husband, during the time of giving suck.

II. The diet of the Indians is of a mixed nature, being partly animal and partly vegetable; their animals are wild and therefore easy of digestion. As the Indians are naturally more disposed to the indolent employment of fishing than hunting in summer, so we find them living more upon fish than land animals, in that season of the year. Their vegetables consist of roots and fruits, mild in themselves, or capable of being made so by the action of fire. Altho' the interior parts of our continent abound with salt springs, yet I cannot find that the Indians used salt in their diet, till they were instructed

ed to do so by the Europeans. The small quantity of fixed alkali contained in the ashes on which they roasted their meat, could not add much to its stimulating quality. They preserve their meat from putrefaction, by cutting it into small pieces, and exposing it in summer to the sun, and in winter to the frost. In the one case its moisture is dissipated, and in the other so frozen, that it cannot undergo the putrefactive process. In dressing their meat, they are careful to preserve its juices. They generally prefer it in the form of soups. Hence we find, that among them, the use of the spoon preceded that of the knife and fork. They take the same pains to preserve the juice of their meat when they roast it, by turning it often. The efficacy of this animal juice in dissolving meat in the stomach, has not been equalled by any of those sauces or liquors, which modern luxury has mixed with it for that purpose.

THE Indians have no set time for eating, but obey the gentle appetites of nature, as often as they call them. After whole

whole days spent in the chase or in war, they often commit those excesses in eating, to which long abstinence can not fail of prompting them. It is common to see them spend three or four hours in satisfying their hunger. This is occasioned not more by the quantity they eat, than by the pains they take in masticating it.

III. WE come now to speak of those customs which are peculiar to the sexes. And, first, of those which belong to the WOMEN. They are doomed by their husbands to such domestic labor as gives a firmness to their bodies, bordering upon the masculine. Their menses seldom begin to flow before they are eighteen, or twenty years of age, and generally cease before they are forty. They have them in small quantities, but at regular intervals. They seldom marry till they are above twenty. The constitution has now acquired a vigor, which enables it the better to support the convulsions of child-bearing. This custom likewise guards against a premature old age. Doctor Bancroft

Bancroft ascribes the haggard looks—the loose hanging breasts—and the prominent bellies of the Indian women at Guiana, entirely to their bearing children too early *. Where marriages are unfruitful (which is seldom the case) a separation is obtained by means of an easy divorce; so that they are unacquainted with the disquietudes which sometimes arise from barrenness. During pregnancy, the women are exempted from the more laborious parts of their duty—Hence miscarriages rarely happen among them. Nature is their only midwife. Their labors are short, and accompanied with little pain. Each woman is delivered in a private cabin, without so much as one of her own sex to attend her. After washing herself in cold water, she returns in a few days to her usual employments; so that she knows nothing of those accidents which arise from the carelessness, or ill management of midwives, or those weaknesses which arise from a month's confinement in a warm room. It is remarkable that there is hardly a period in the interval between the eruption and the ceasing of

* Natural history of Guiana.

of the menses, in which they are not pregnant, or giving suck. This is the most natural state of the constitution during that interval; and hence we often find it connected with the best state of health in the women of civilized nations.

THE customs peculiar to the Indian MEN, consist chiefly in those employments which are necessary to preserve animal life, and to defend their nation. These employments are hunting and war, each of which is conducted in a manner that tends to call forth every fibre into exercise, and to ensure them the possession of the utmost possible health. In times of plenty and peace, we see them sometimes rising from their beloved indolence, and shaking off its influence by the salutary exercises of dancing and swimming. The Indian men seldom marry before they are thirty years of age: They no doubt derive considerable vigor from this custom; for while they are secured by it, from the enervating effects of the premature dalliance of love, they may ensure more certain fruitfulness to their wives, and entail more certain health upon

upon their children. Tacitus describes the same custom among the Germans, and attributes to it the same good effects.
 “Sera juvenum venus, eoque inexhausta
 “pubertas ; nec virgines festinantur ; ea-
 “dem juventa, similis proceritas, pares
 “validique miscentur ; ac robora paren-
 “tum liberi referunt.”(a)

AMONG the Indian men it is deemed a mark of heroism to bear the most exquisite pain without complaining ; upon this account they early inure themselves to burning part of their bodies with fire, or cutting them with sharp instruments. No young man can be admitted to the honors of manhood or war, who has not acquitted himself well in these trials of patience and fortitude. It is easy to conceive how much this contributes to give a tension to the nervous system, which renders it less subject to the occasional causes of diseases.

IV. WE come now to speak of those customs which are common to both sexes : These are PAINTING, and the use of the COLD BATH. The practice of anoint-
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ing the body with oil is common to the savages of all countries : In warm climates it is said to promote longevity, by checking excessive perspiration. The Indians generally use bear's grease mixed with a clay, which bears the greatest resemblance to the color of their skins. This pigment serves to lessen the sensibility of the extremities of the nerves : It moreover fortifies them against the action of those exhalations, which we shall mention hereafter, as a considerable source of their diseases. The COLD BATH likewise fortifies the body, and renders it less subject to those diseases which arise from the extremes and vicissitudes of heat and cold. We shall speak hereafter of the Indian manner of using it.

THE state of society among the Indians excludes the influence of most of those passions which disorder the body. The turbulent effects of anger are concealed in deep and lasting resentments. Envy and ambition are excluded by their equality of power and property : Nor is it necessary that the perfections of the whole sex should be ascribed to one, to induce them
to

to marry. "The weakness of love (says
 "doctor Adam Smith) which is so much
 "indulged in ages of humanity and po-
 "liteness, is regarded among savages as
 "the most unpardonable effeminacy. A
 "young man would think himself dis-
 "graced for ever, if he showed the least
 "preference of one woman above another,
 "or did not express the most compleat
 "indifference, both about the time when,
 "and the person to whom he was to be
 "married*." Thus are they exempted
 from those violent or lasting diseases,
 which accompany the several stages of
 such passions in both sexes among civi-
 lized nations.

It is remarkable that there are no de-
 formed Indians: Some have suspected
 from this circumstance, that they put
 their deformed children to death; but
 nature here acts the part of an unna-
 tural mother. The severity of the Indi-
 an manners destroys them. (b)

FROM a review of the customs of the
 Indians, we need not be surpris'd at the
 stateliness,

stateliness, regularity of features, and dignity of aspect by which they are characterized. Where we observe these among ourselves, there is always a presumption of their being accompanied with health, and a strong constitution.

HAVING finished our enquiry into the physical customs of the Indians, we shall proceed now to enquire into their diseases.

A CELEBRATED professor of anatomy has asserted, that we could not tell by reasoning a priori, that the body was mortal, so intimately woven with its texture, are the principles of life. Lord Bacon declares, that the only cause of death which is natural to man, is that from old age; and complains of the imperfection of physic, in not being able to guard the principle of life, until the whole of the oil that feeds it, is consumed. We cannot admit of this proposition of our noble philosopher. In the inventory of the grave in every country, we find more of the spoils of youth and manhood, than of age. This must be attributed to moral as well as physical causes.

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WE need only recollect the custom among the Indians, of sleeping in the open air in a variable climate—the alternate action of heat and cold upon their bodies, to which the warmth of their cabbins exposes them—their long marches—their excessive exercise—their intemperance in eating, to which their long fasting, and their public feasts naturally prompt them: And, lastly, the vicinity of their habitations to the banks of rivers, in order to discover the empire of diseases among them in every stage of their lives. They have in vain attempted to elude the general laws of mortality, while their mode of life subjects them to these remote, but certain causes of diseases.

FROM what we know of the action of these potentia nocentes upon the human body, it will hardly be necessary to appeal to facts to determine that FEVERS constitute the only diseases among the Indians. These fevers are occasioned by the sensible and insensible qualities of the air. Those which are produced by cold, are of the inflammatory kind, such as pleurifies, peripneumonies, and rheumatisms. Those
which

which are produced by the insensible qualities of the air, or by putrid exhalations,—are intermitting,—putrid,—and inflammatory, according as the exhalations are combined with more or less heat or cold. The DYSENTERY (which is an Indian disease) comes under the class of fevers. It is the febris introversa of Dr. Sydenham.

THE INDIANS are subject to ANIMAL and VEGETABLE POISONS. The effects of these upon the body, are in some degree analogous to the exhalations we have mentioned. When they do not bring on sudden death, they produce according to their malignity, either an inflammatory or putrid fever.

THE SMALL POX and the VENEREAL DISEASE were communicated to the Indians in North-America by the Europeans. Nor can I find that they were ever subject to the scurvy. Whether this was obviated by their method of preserving their flesh, or by their mixing it at all times with vegetables, I shall not undertake to determine. Doctor Maclurg ascribes to
fresh

fresh meat an antiseptic quality*. The peculiar customs and manners of life among the Indians, seems to have exempted them from these, as well as all other diseases of the fluids. The leprosy—elephantiasis—scurvy—and venereal disease, appear to be different modifications of the same primary disorder. The same causes produce them in every age and country. They are diversified like plants by climate and nourishment. They all sprung originally from a moist atmosphere, and unwholesome diet: hence we read of their prevailing so much in the middle centuries, when the principal parts of Europe were overflowed with water, and the inhabitants lived entirely on fish, and a few unwholesome vegetables. The abolition of the feudal system in Europe by introducing freedom, introduced at the same time agriculture; which by multiplying the fruits of the earth, lessened the consumption of animal food, and thus put a stop to these disorders. The elephantiasis is almost unknown in Europe. The leprosy is confined chiefly to the low countries of Africa. The *plica polonica* once so com-

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* Experiments on the bile, and reflexions on the biliary secretion.

mon in Poland is to be found only in books of medicine. The venereal disease will probably in a few years cease to be a tax upon unlawful embraces. The small pox is no longer a fatal disorder, when the body is prepared for its reception, by a vegetable regimen. Even the plague itself is losing its sting. It is hardly dreaded at this time in Turkey; and its very existence is preserved there by the doctrine of fatalism, which prevails among the inhabitants of that country. It may serve as a new and powerful motive against political slavery to perceive, that it is connected with those diseases which most deform and debase the human body. It may likewise serve to enhance the blessings of liberty, to trace its effects, in eradicating such loathsome and destructive disorders. (c)

I HAVE heard of two or three cases of the GOUT among the Indians, but it was only among those who had learned the use of rum, from the white people. A question naturally occurs here, and that is; why does not the gout appear more frequently among that class of people, who

who consume the greatest quantity of rum among ourselves? To this I answer, that the effects of this liquor upon those enfeebled people, are too sudden and violent, to admit of their being thrown upon the extremities; as we know them to be among the Indians. They appear only in visceral obstructions, and a complicated train of chronic diseases. Thus putrid miasmata are sometimes too strong to bring on a fever, but produce instant debility, and death. The Gout is seldom heard of in Russia, Denmark or Poland. Is this occasioned by the vigor of constitution peculiar to the inhabitants of those northern countries? Or is it caused by their excessive use of spirituous liquors, which produce the same chronic complaints among them, which we said were common among the lower class of people in this country? The similarity of their diseases, makes the last of these suppositions the most probable. The effects of wine, like tyranny in a well formed government, are felt first in the extremities; while spirits, like a bold invader, seize at once upon the vitals of the constitution.

I CANNOT find any accounts of diseases from WORMS among the Indians. Worms are common to most animals; they produce diseases only in weak, or increase them in strong constitutions.—Hence they have no place in the nosological systems of physic. Nor does DENTITION appear to be a disorder among the Indians. The facility with which the healthy children of healthy parents cut their teeth, among civilized nations, gives us reason to conclude that the Indian children never suffer from this quarter.

THE employments of the Indians subject them to many accidents; hence we sometimes read of WOUNDS, FRACTURES, and LUXATIONS among them.

HAVING thus pointed out the natural diseases of the Indians, and shown what disorders are foreign to them; we may venture to conclude, that FEVERS, OLD AGE, CASUALTIES and WAR are the only natural outlets of human life. War is nothing but a distemper; it is founded in the imperfection of political bodies; just as fevers are founded

founded on the weakness of the animal body.—Providence in these diseases seems to act like a mild legislature, which mitigates the severity of death, by inflicting it in a manner the least painful upon the whole, to the patient and the survivors.

LET us now enquire into the REMEDIES of the Indians. These like their diseases are simple, and few in number. Among the first of them we shall mention the POWERS of NATURE. Fevers we said formerly, constituted the chief of the diseases among the Indians; they are likewise, in the hands of nature, the principal instruments to remove the evils which threaten her dissolution; (d) but the event of these efforts of nature, no doubt, soon convinced the Indians of the danger of trusting her in all cases; and hence in the earliest accounts we have of their manners, we read of persons who were intrusted with the office of physicians.

It will be difficult to find out the exact order, in which the Indian remedies were suggested by nature; or discovered by art; nor will it be easy to arrange them in proper order. I shall however attempt

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it, by reducing them to NATURAL, and ARTIFICIAL.

To the class of NATURAL REMEDIES belongs the Indian practice, of abstracting from their patients all kinds of stimulating aliment. The compliance of the Indians with this dictate of nature, in the early stage of a disorder, no doubt, prevents in many cases, their being obliged to use any other remedy. They follow nature still closer, in allowing their patients to drink plentifully of cold water; this being the only liquor a patient calls for in a fever.

SWEATING is likewise a natural remedy. It was probably suggested by observing fevers to be terminated by it. I shall not enquire how far these sweats are essential to the crisis of fevers. The Indian mode of procuring this evacuation is as follows; the patient is confined in a close tent, or wigwam, over a hole in the earth, in which a red-hot stone is placed; a quantity of water is thrown upon this stone, which instantly involves the patient in a cloud of vapour and sweat; in this situation

situation he rushes out, and plunges himself into a river; from whence he retires to his bed. If the remedy has been used with success, he rises from his bed in four and twenty hours, perfectly recovered from his indisposition. This remedy is used not only to cure fevers, but to remove that uneasiness which arises from fatigue of body.

A THIRD natural remedy among the Indians, is PURGING. The fruits of the earth, the flesh of birds, and other animals feeding upon particular vegetables, and above all, the spontaneous efforts of nature, early led the Indians to perceive the necessity and advantages of this evacuation,

VOMITS constitute their fourth natural remedy. They were probably like the former, suggested by nature, and accident. The ipecacuana is one of the many roots they employ, for this purpose.

THE ARTIFICIAL REMEDIES made use of by the Indians, are BLEEDING, CAUSTICS, and ASTRINGENT medicines. They confine bleeding entirely to the part affected.

fects. To know that opening a vein in the arm, or foot, would relieve a pain in the head, or side, supposes some knowledge of the animal œconomy, and therefore marks an advanced period in the history of medicine.

SHARP stones and thorns, are the instruments they use, to procure a discharge of blood,

WE have an account of the Indians using something like a POTENTIAL CAUSTIC, in obstinate pains. It consists of a piece of rotten wood, called *punk*, which they place upon the part affected, and afterwards set it on fire; the fire gradually consumes the wood, and its ashes burn a hole in the flesh.

THE undue efforts of nature, in those fevers which are connected with a diarrhœa, or dysentery, together with those hemorrhages to which their mode of life exposed them, necessarily led them to an early discovery of some ASTRINGENT VEGETABLES. I am uncertain whether the Indians rely upon astringent, or
any

any other vegetables, for the cure of the intermitting fever. This disease among them probably requires no other remedies than the cold bath, or cold air. Its greater obstinacy, as well as frequency among ourselves, must be sought for in the greater feebleness of our constitutions; and in that change which our country has undergone, from meadows—mill-dams—and the cutting down of woods; whereby morbid exhalations have been multiplied, and their passage rendered more free, through every part of the country. (c)

THIS is a short account of the remedies of the Indians. If they are simple, they are like their eloquence, full of strength; if they are few in number, they are accommodated, as their languages are to their ideas, to the whole of their diseases.

WE said formerly that the Indians were subject to ACCIDENTS, such as wounds—fractures—and the like. In these cases, nature performs the office of a surgeon. We may judge of her qualifications for this office, by observing the
marks

marks of wounds, and fractures, which are sometimes discovered on wild animals. But further, what is the practice of our modern surgeons in these cases? Is it not to lay aside plasters and ointments, and trust the whole to nature? Those ulcers which require the assistance of mercury, bark, and a particular regimen, are unknown to the Indians.

THEIR practice of attempting to recover DROWNED PEOPLE, is irrational and unsuccessful. It consists in suspending the patient by the heels, in order that the water may flow from his mouth. This practice is founded on a belief, that the patient dies from swallowing an excessive quantity of water. But modern observation teaches us, that, drowned people die of an apoplexy. This discovery naturally suggests a method of cure, directly opposite to that in use among the Indians; and shows us that the practice of suspending by the heels is hurtful.

WE have heard much of their specific antidotes to the VENEREAL DISEASE. In the accounts of these antivenereal medicines

dicines, some abatement should be made for that love of the marvellous, and of novelty, which are apt to creep into the writings of travellers, and physicians. How many medicines which were once thought infallible in this disorder, are now rejected from the materia medica! I have found upon enquiry, that the Indians always assist their medicines in this disease, by a regimen which promotes perspiration. Should we allow that mercury acts as a specific in destroying this disorder, it does not follow that it is proof against the efficacy of medicines which act more mechanically upon the body. (f)

THERE cannot be a stronger mark of the imperfect state of knowledge in medicine among the Indians, than their method of treating the SMALL-POX. We are told that they plunge themselves in cold water, in the beginning of the disorder, and that it generally proves fatal to them.

TRAVELLERS speak in high terms of the Indian ANTIDOTES TO POISONS. We must remember, that many things have been
 E thought

thought poisonous, which later experience hath proved to possess no unwholesome quality. Moreover the uncertainty and variety in the operation of poisons, render it extremely difficult to fix the certainty of their antidotes, to them. How many specifics have derived their credit for preventing the hydrophobia, from persons being wounded by animals, who were not in a situation to produce that disorder! If we may judge of all the Indian antidotes to poisons, by those which have fallen into our hands, we have little reason to ascribe much to them in any cases whatever.

I HAVE heard of their performing several remarkable cures upon STIFF JOINTS, by an infusion of certain herbs in water.—The mixture of several herbs together in this infusion calls in question the specific efficacy of each of them. I cannot help attributing the whole success of this remedy, to the great heat of the water, in which the herbs were boiled; and to its being applied a long time to the part affected. We find the same medicine to vary frequently in its success, according
to

to its strength, or to the continuance of its application. De Haen attributes the good effects of electricity, entirely to its being used for several months.

We are sometimes amused with accounts of Indian remedies for the DROPSY—EPILEPSY—COLIC—GRAVEL and GOUT. If with all the advantages which modern physicians derive from their knowledge in ANATOMY—CHEMISTRY—BOTANY and PHILOSOPHY, if with the benefit of discoveries communicated from abroad, as well as handed down from our ancestors, by more certain methods than tradition, we are still ignorant of certain remedies for these diseases; what can we expect from the Indians, who are not only deprived of these advantages, but want our chief motive, the sense of the pain and danger of those disorders, to prompt them to seek for such remedies to relieve them? There cannot be a stronger proof of their ignorance of proper remedies for new or difficult diseases, than their having recourse to enchantment. But to be more particular; I have taken pains to enquire into

into the success of some of these Indian specifics, and have never heard of one well attested case of their efficacy. I believe they derive all their credit from our being ignorant of their composition. The influence of secrecy is well known in establishing the credit of a medicine. The *sal seignet* was an infallible medicine for the intermitting fever, while the manufactory of it was confined to an apothecary at Rochelle; but it lost its virtues as soon as it was found to be composed of the salt of tartar, and a fossil alkali. Doctor Ward's famous pill and drop, ceased to do wonders in scrophulous cases, as soon as he bequeathed to the world his receipts for making them.

I FORESEE an objection to what has been said concerning the remedies of the Indians, drawn from that knowledge which experience gives to a mind intent upon one subject. We have heard much of the perfection of their senses of seeing and hearing. An Indian we are told, will discover not only a particular tribe of Indians by their footsteps, but the distance of time in which they were made. In those

those branches of knowledge which relate to hunting and war, the Indians have acquired a degree of perfection that has not been equalled by civilized nations. But we must remember that medicine among them does not enjoy the like advantage, the arts of war and hunting, of being the chief object of their attention. The physician and the warrior are united in one character; to render him as able in the former, as he is in the latter profession, would require an entire abstraction from every other employment, and a familiarity with external objects, which are incompatible with the wandering life of savages.

Thus have we finished our enquiry into the diseases and remedies of the Indians in North-America.—We come now to enquire into the diseases and remedies of civilized nations.

NATIONS differ in their degrees of civilization. We shall select one for the subject of our enquiries which is most familiar to us; I mean the British Nation. Here we behold subordination and classes of

of mankind established by government—
—commerce—manufactures, and certain
customs common to most of the civilized
nations of Europe. We shall trace the
origin of their diseases through their cus-
toms, in the same manner as we did those
of the Indians.

I. It will be sufficient to name the
degrees of heat—the improper aliment
—the tight dresses, and the premature
studies children are exposed to, in order
to show the ample scope for diseases,
which is added to the original defect of
stamina, they derive from their ances-
tors.

II. CIVILIZATION rises in its demands
upon the health of women. Their fashi-
ons, their dress and diet—their eager
pursuits and ardent enjoyment of plea-
sure—their indolence and undue eva-
cuations in pregnancy—their cordials
—hot regimen and neglect or use of
art, in child-birth, are all so many inlets
to diseases.

HUMANITY would fain be silent, while
philosophy calls upon us to mention the
effects

effects of interested marriages—of disappointments in love, encreased by that concealment which the tyranny of custom has imposed upon the sex; and lastly, the effects of the long delay of the marriage bed. (g) All these exaggerate the natural, and encrease the number of artificial diseases among women.

III. THE diseases introduced by civilization extend themselves through every class and profession among men. How fatal are the effects of idleness and intemperance among the rich—and of hard labor and penury among the poor! What palid looks are contracted by the votaries of science from hanging over the “sickly taper.” How many diseases are entailed upon manufacturers, by the materials in which they work, and the posture of their bodies! What monkish diseases do we observe from monkish continence, and monkish vices! We pass over the increase of accidents from building—sailing—riding and the like. War as if too slow in destroying the human species, calls in a train of diseases peculiar to civilized nations. What havoc
have

have the corruption and monopoly of provisions—a damp soil, and an unwholesome sky, made in a few days in an army! The achievements of british valor at the Havannah, in the last war, were obtained at the expence of 9,000 men, 7,000 of whom perished with the West-India fever. (h) Even our modern discoveries in geography, by extending the empire of commerce, have likewise extended the empire of diseases. What desolation have the East and West-Indies made, of British subjects! It has been found upon a nice calculation, that only ten of an hundred Europeans, live above seven years after they arrive in the island of Jamaica. (i)

IV. It would take up too much of our time to point out all the customs both *physical* and *moral*, which influence diseases among both sexes. The former have engendred the seeds of diseases, in the human body itself; hence the origin of catarrhs—jail and miliary fevers; with a long train of contagious disorders, which compose so great a part of our books of medicine. The latter likewise have

have a large share in producing diseases. I am not one of those modern philosophers, who derive the vices of mankind from the influence of civilization: but I am safe in asserting, that their number and malignity encrease with the refinements of polished life. To prove this, we need only survey a scene too familiar to affect us: it is a bedlam, which injustice — inhumanity — avarice — pride — vanity and ambition have filled with inhabitants.

Thus have we briefly pointed out the customs which influence the diseases of civilized nations. It remains now that we take notice of their diseases. Without naming the many new fevers, fluxes, hæmorrhages, swellings from water, wind, flesh, fat, pus and blood; foulnesses on the skin from cancers, lepras, yaws, poxes, itch; and lastly, the gout, the hysteria, and the hypochondriasis, in all their variety of known and unknown shapes: I shall sum all that is necessary upon this subject by adding, that the number of diseases which belong to civilized nations, according to Doctor Cullen's nosology,

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amounts to 1,387: the single class of nervous diseases form 612 of this number.

BEFORE we proceed to speak of the remedies of civilized nations, we shall examine into the abilities of NATURE in curing their diseases. We found her active and successful in curing the diseases of the Indians. Is her strength, wisdom, or benignity, equal to the encrease of those dangers which threaten her dissolution among civilized nations? In order to answer this question, it will be necessary to explain the meaning of the term nature.

BY NATURE, in the present case, I understand nothing but physical necessity: this at once excludes every thing like intelligence from her operations: these are all performed in obedience to the same laws, which govern vegetation in plants and the intestine motions of fossils: they are as truly mechanical as the laws of gravitation, electricity, or magnetism. A ship when laid on her broadside by a wave, or a sudden blast of wind, rises
by

by the simple laws of her mechanism: but suppose this ship to be attacked by fire, or a water-spout, we are not to call in question the skill of the ship-builder, if she is consumed by the one, or sunk by the other. In like manner the author of nature hath furnished the body with powers to preserve itself from its natural enemies; but when it is attacked by those civil foes which are bred by the peculiar customs of civilization, it resembles a company of Indians, armed with bows and arrows, against the complicated and deadly machinery of fire-arms. To place this subject in a proper light, we shall deliver a history of the operations of nature in a few of the diseases of civilized nations.

I. THERE are cases in which nature is still successful in curing diseases.

IN fevers she still deprives us of our appetite for animal food, and imparts to us a desire for cool air and cold water.

IN hæmorrhages she produces a faintness, which occasions a coagulum in the
open

open vessels ; so that the further passage of blood through them is obstructed.

IN wounds of the flesh and bones, the discharges foreign matter by exciting an inflammation, and supplies the waste of both with new flesh and bone.

II. THERE are cases where the efforts of nature are too feeble to do service, as in putrid and nervous fevers.

III. THERE are cases where the efforts of nature are over-proportioned to the strength of the disease, as in the cholera morbus and dysentery.

IV. THERE are cases where nature is idle, as in the atonic stages of the gout, the cancer, the epilepsy the mania, the venereal disease, the apoplexy and the tetanus.*

V. THERE are cases in which nature does mischief. She wastes herself with an unnecessary fever, in a dropy and consumption. She throws a plethora upon the
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* Hoffman de Hypothesum Medicarum Damno Sect. xv.

the brains and lungs. She ends a pleurisy and peripneumony in a vomica, or empiema. She creates an unnatural appetite for food in the hypochondriac disorder. And lastly she drives the melancholy patient to solitude, where by brooding over the subject of his insanity, he encreases his disease.

We are accustomed to hear of the salutary kindness of nature in alarming us with pain, to prompt us to seek for a remedy. But,

VI. THERE are cases in which she refuses to send this harbinger of the evils which threaten her, as in the aneurism, scirrhus, and stone of the bladder.

VII. THERE are cases where the pain is not proportioned to the danger, as in the tetanus, consumption and dropfy of the head. And,

VIII. THERE are cases where the pain is over-proportioned to the danger, as in the paronychia and tooth-ach.

THIS

THIS is a short account of the operations of nature, in the diseases of civilized nations. A lunatic might as well plead against the sequestration of his estate, because he once enjoyed the full exercise of his reason, or because he still had lucid intervals, as nature be exempted from the charges we have brought against her.

BUT this subject will receive strength from considering the REMEDIES of civilized nations. All the products of the vegetable, fossil and animal kingdoms, tortured by heat and mixture into an almost infinite variety of forms; bleeding, cupping, artificial drains by setons, issues, and blisters; exercise active and passive; voyages and journies; baths warm and cold, waters saline aerial and mineral, food by weight and measure, the royal touch, enchantment, miracles, in a word, the combined discoveries of natural history and philosophy, united into a system of materia medica, all show, that although physicians are in speculation the servants, yet in practice they are the masters of nature. The whole of their remedies seem contrived

contrived on purpose to arouse, assist
restrain and controul her operations.

THERE are some truths like certain
liquors which require strong heads to bear
them. I feel myself protected from the
prejudices of vulgar minds, when I re-
flect that I am delivering these senti-
ments in a society of philosophers.

LET US NOW take a COMPARITIVE VIEW
of the diseases and remedies of the In-
dians, with those of civilized nations.
We shall begin with their diseases.

IN our account of the diseases of the
Indians we beheld death executing his
commission, it is true ; but then his dart
was hid in a mantle, under which he
concealed his shape. But among civiliz-
ed nations we behold him multiplying
his weapons in proportion to the number
of organs and functions in the body ; and
pointing each of them in such a manner,
as to render his messengers more terrible
than himself.

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WE said formerly that fevers constituted the chief diseases of the Indians. According to Dr. Sydenham's computation above 66,000 out of 100,000 died of fevers in London about 100 years ago ; but fevers now constitute but a little more than one tenth part of the diseases of that city. Out of 21,780 persons who died in London between December 1770 and December 1771, only 2273 died of simple fevers. I have more than once heard Dr. Huxley complain, that he could find no marks of epidemic fevers in London as described by Dr. Sydenham. London has undergone a revolution in its manners and customs since Dr. Sydenham's time. New diseases, the offspring of luxury, have supplanted fevers ; and the few that are left, appear so complicated with other diseases, that their connection can no longer be discovered with an epidemic constitution of the year. The pleurisy and peripneumony, those inflammatory fevers of strong constitutions, are now lost in catarrhs, or colds ; which instead of challenging the powers of nature or art to a fair combat, insensibly

sensibly undermine the constitution, and bring on an incurable consumption. Out of 22,434 who died between December 1769 and the same month in 1770, 4594 perished with that british disorder. Our countryman Dr. Maclurg has ventured to foretel that the Gout will be lost in a few years, in a train of hypochondriac, hysteric and bilious disorders. In like manner, may we not look for a season when fevers, the natural diseases of the human body, will be lost in an inundation of artificial diseases, brought on by the modish practices of modern civilization?

It may not be improper to compare the PROGNOSIS of the Indians, in diseases, with that of civilized nations, before we take a comparative view of their remedies.

THE Indians are said to be successful in predicting the events of diseases. While diseases are simple, the marks which distinguish them, or characterize their several stages, are generally uniform and obvious to the most indifferent observer. These marks afford so much

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certainty

certainty, that the Indians sometimes kill their physicians for a false prognosis, charging the death of the patient to his carelessness, or ignorance. They estimate the danger of their patients by their degrees of appetite; while an Indian is able to eat, he is looked upon as free from danger. But when we consider the number and variety in the signs of diseases, among civilized nations, together with the shortness of life, the fallacy of memory, and the uncertainty of observation; where shall we find a physician willing to risk his reputation, much less his life, upon the prediction of the event of our acute diseases? We can derive no advantage from the simple sign, by which the Indians estimate the danger of their patients; for we daily see a want of appetite for food in diseases which are attended with no danger; and we sometimes observe an unusual degree of this appetite to precede the agonies of death. I honour the name of HIPPOCRATES: But forgive me ye votaries of antiquity, if I attempt to pluck a few grey hairs from his venerable head. I was once an idolater at his altar, nor did I turn apostate from

from his worship, till I was taught, that not a tenth part of his prognostics corresponded with modern experience, or observation. (k) The pulse, (l) urine (m) and sweats (n) from which the principal signs of life and death have been taken, are so variable in most of the acute diseases of civilized nations, that the wisest physicians have in some measure excluded the prognosis, from being a part of their profession.

I AM here insensibly led to make an apology for the instability of the theories, and practice of physic. The theory of physic is founded upon the laws of the animal œconomy. These (unlike the laws of the mind, or the common laws of matter) do not appear at once, but are gradually brought to light, by the phenomena of diseases. The success of nature, in curing the simple diseases of Saxony, laid the foundation for the ANIMA MEDICA of Dr. STAHL. The endemics of Holland (o) led Dr. BOERHAAVE to seek for the causes of all diseases in the FLUIDS. And the universal prevalence of the diseases of the NERVES, in Great-Britain, led Dr. CULLEN to discover their peculiar

peculiar laws, and to found a SYSTEM upon them. A system, which will probably last till some new diseases are let loose upon the human species, which shall unfold other laws of the animal œconomy!

It is in consequence of this fluctuation in the principles, and practice of physic, being so necessarily connected with the changes in the customs of civilized nations, that old and young physicians so often disagree, in their opinions and practices. And it is by attending to the constant changes in these customs of civilized nations, that those physicians have generally become the most eminent, who have soonest emancipated themselves from the tyranny of the schools of physic; and have occasionally accommodated their principles, and practice, to the changes in diseases. (p) This variety in diseases, which is produced by the changes in the customs of civilized nations, will enable us to account for many of the contradictions which are to be found in authors of equal candor, and abilities, who have written of the materia medica,

IN

IN forming a comparative view of the REMEDIES of the Indians, with those of civilized nations, we shall remark, that the want of success in a medicine, is occasioned by one of the following causes.

FIRST, our ignorance of the disorder. Secondly, an ignorance of a suitable remedy. Thirdly, a want of efficacy in the remedy.

CONSIDERING the violence of the diseases of the Indians, it is probable their want of success, is always occasioned by a want of efficacy in their medicines. But the case is very different among civilized nations. Dissections daily convince us of our ignorance of the seats of diseases, and cause us to blush at our prescriptions. What certain or equal remedies have we found for the gout, the epilepsy, apoplexy, palsy, dropy of the brain, cancer and consumption? How often are we disappointed in our expectations, from the the most certain and powerful of our remedies, by the negligence or obstinacy of our patients! What mischief have we not done under the belief of false facts,

facts, and false theories! We have assisted in multiplying diseases.—We have done more—we have increased their mortality. (q)——

I SHALL not pause to beg pardon of the faculty, for acknowledging in this public manner the weaknesses of our profession. I am pursuing truth, and while I can keep my eye fixed upon my guide—I am indifferent whither I am led, provided she is my leader.

BUT further, the Indian submits to his disease, without one fearful emotion, from his doubtfulness of its event; and at last meets his fate without an anxious wish for futurity; except it is of being admitted to an “equal sky” where

“His faithful dog shall bear him company.”

BUT among civilized nations, the influence of a false religion in good, and of a true religion in bad men, has converted even the fear of death into a disease. It is this original distemper of the imagination which renders the plague most fatal, upon its first appearance in a country.

UNDER

UNDER all these disadvantages, in the state of medicine, among civilized nations, do more in proportion die of the diseases peculiar to them, than of fevers, casualties and old age, among the Indians? If we take our account from the city of London, we shall find this to be the case. Near a twentieth part of its inhabitants perish one year with another. Nor does the natural increase of inhabitants supply this yearly waste. If we judge from the bills of mortality, the city of London contains fewer inhabitants, by several thousands, than it did forty years ago. It appears from this fact, and many others of a like nature, which might be adduced, that although the difficulty of supporting children, together with some peculiar customs of the Indians, which we mentioned, limit their number; yet they multiply faster, and die in a smaller proportion than civilized nations, under the circumstances we have described. The Indians we are told were numerous in this country, before the Europeans settled among them. Travellers agree likewise in describing numbers
of

of both sexes, who exhibited all the marks of extreme old age. It is remarkable that age seldom impairs the faculties of their minds.

THE mortality peculiar to those Indian tribes who have mingled with the white people must be ascribed to the extensive mischief of spirituous liquors. When these have not acted, they have suffered from having accommodated themselves too suddenly to the European diet, dress, and manners. It does not become us to pry too much into futurity; but if we may judge from the fate of the original natives of Hispaniola, Jamaica, and the provinces on the continent, we may venture to foretel, that, in proportion as the white people multiply, the Indians will diminish; so that in a few centuries they will probably be entirely extirpated. (r)

It may be said, that health among the Indians, like insensibility to cold and hunger, is proportioned to their need of it; and that the less degrees, or entire want

want of health are no interruption to the ordinary business of civilized life.

To obviate this supposition we shall first attend to the effects of a single distemper in those people, who are the principal wheels in the machine of civil society. Justice has stopt its current—victories have been lost—wars have been prolonged, and embassies delayed, by the principal actors in these departments of government, being suddenly laid up with a fit of the gout. How many offences are daily committed against the rules of good breeding, by the tedious histories of our disorders, which compose so great a part of modern conversation! What sums of money have been lavished in foreign countries in pursuit of health! (s) Families have been ruined by the unavoidable expences of medicines, and watering places. In a word, the swarms of beggars which infest so many of the European countries, urge their petitions for charity chiefly by arguments derived from real or counterfeit diseases, which render them incapable of supporting themselves. (t)

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BUT

BUT may not civilization while it abates the violence of natural diseases, increase the lenity of those that are artificial; in the same manner that it lessens the strength of natural vices by multiplying them? To answer this question, it will only be necessary to ask another: Who would exchange the heat, thirst and uneasiness of a fever, for one fit of the colic or stone?

THE history of the number, combinations and fashions of the remedies we have given, may serve to humble the pride of philosophy; and to convince us that with all the advantages of the whole circle of sciences, we are still ignorant of antidotes to the chief of the diseases of civilized nations. We sometimes sooth our ignorance by reproaching our idleness in not investigating the remedies peculiar to this country. We are taught to believe that every herb that grows in our woods, is possessed of some medicinal virtue, and that heaven would be wanting in benignity if our country did not produce remedies, for all the different diseases of its inhabitants. (u) It would be

be arrogating too much to suppose, that man was the only creature in our world for whom vegetables grow. The beasts, birds and insects, derive their sustenance either directly, or indirectly from them; while many of them were probably intended from their variety in figure, foliage and color, only to serve as ornaments for our globe. It would seem strange that the author of nature should furnish every spot of ground, with medicines adapted to the diseases of its inhabitants, and at the same time deny it the more necessary articles of food and cloathing. I know not whether heaven has provided every country with antidotes even to the *natural* diseases of its inhabitants. The intermitting fever is common in almost every corner of the globe. But a sovereign remedy for it has been discovered only in South-America. The combination of bitter and astringent substances which serve as a succedaneum to the Peruvian bark is as much a preparation of art, as calomel, or tartar emetic. Societies stand in need of each other as much as individuals: and the goodness of the deity remains unimpeached when we suppose,

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that he intended medicines to serve (with other articles) to promote that knowledge, humanity and politeness among the inhabitants of the earth, which have been so justly attributed to commerce. (w)

WE have no discoveries in the materia medica, to hope for from the Indians in North-America. It would be a reproach to our schools of physic, if modern physicians were not more successful than the Indians, even in the treatment of their own diseases. (x)

Do the blessings of civilization compensate for the sacrifice we make of natural health, as well as of natural liberty? This question must be answered under some limitations. When natural liberty is given up for laws, which enslave instead of protecting us, we are immense losers by the exchange. Thus, if we arm the whole elements against our health, and render every pore in the body an avenue for a disease, we pay too high a price for the blessings of civilization.

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IN governments which have departed entirely from their simplicity, partial evils are to be cured by nothing, but an entire renovation of their constitution. Let the world bear with the professions of law—physic—and divinity, and let the lawyer, physician and divine yet learn to bear with each other. They are all necessary, in the present state of society. In like manner, let the woman of fashion, forget the delicacy of her sex, and submit to be delivered by a man-midwife. (y) —Let her snatch her offspring from her breast, and send it to repair the weakness of its stamina, with the milk of a ruddy cottager. (z) Let art supply the place of nature in the preparation and digestion of all our aliment. (a a) Let our fine ladies keep up their color with carmine, (b b) and their spirits with ratafia; and let our fine gentlemen, defend themselves from the excesses of heat, and cold, with lavender and hartshorn. These customs have become necessary in the corrupt stages of society. We must imitate in these cases, the practice of those physicians who consult the appetite only,

at guilbert's and own table, work up in

in diseases which do not admit of a remedy.

THE state of a country in point of population, temperance and industry, is so connected with its diseases, that a tolerable idea may be formed of it, by looking over its bills of mortality. HOSPITALS, with all their boasted advantages, exhibit at the same time monuments of the charity and depravity of a people. (e c) The opulence of physicians, and the divisions of their offices, into those of surgery, pharmacy and midwifery, are likewise proofs of the declining state of a country. In the infancy of the Roman Empire, the priest performed the office of a physician; so simple were the principles and practice of physic. It was only in the declension of the empire that physicians vied with the emperors of Rome in magnificence and splendor. (d d)

I AM sorry to add in this place, that the number of patients in the HOSPITAL (ee) and incurables in the ALMS-HOUSE of this city show, that we are treading in the

the enervated steps of our fellow subjects in Britain. Our bills of mortality likewise show the encroachments of British diseases upon us. The NERVOUS FEVER has become so familiar to us, that we look upon it as a natural disease. Dr. Sydenham so faithful in his history of fevers, takes no notice of it. Dr. Cadwallader informed me, that it made its first appearance in this city, about five and twenty years ago. It will be impossible to name the CONSUMPTION without recalling to our minds the memory of some friend, or relation, who has perished within these few years by that disorder. Its rapid progress among us has been unjustly attributed to the growing resemblance of our climate to that of Great-Britain. (ff) The HYSTERIC and HYPOCHONDRIAC DISORDERS, once peculiar to the chambers of the great, are now to be found in our kitchens, and workshops. All these diseases have been produced by our having deserted the simple diet, and manners, of our ancestors.

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THE blessings of literature, commerce and religion, were not *originally* purchased at the expence of health. The complete enjoyment of health is as compatible with civilization, as the enjoyment of civil liberty. We read of countries, rich in every thing that can form national happiness and national grandeur, the diseases of which are nearly as few and simple as those of the Indians. We hear of no diseases among the Jews, while they were under their democratical form of government, except such as were inflicted by a supernatural power. (h h) We should be tempted to doubt the accounts given of the populousness of that people, did we not see the practice of their simple customs, producing nearly the same populousness in Egypt, Rome, and other countries of antiquity. The empire of China, it is said contains more inhabitants than the whole of Europe. The political institutions of that country have exempted its inhabitants from a large share of the diseases of other civilized nations. The inhabitants of Swisserland, Denmark, Norway (ii) and Sweden, enjoy the chief advantages of civilization without having

ing surrendered for them the blessings of natural health. But it is unnecessary to appeal to antient or remote nations to prove, that health is not incompatible with civilization. The inhabitants of many parts of New-England, particularly the province of Connecticut, are strangers to artificial diseases. — Some of you may remember the time, and our fathers have told those of us who do not, when the diseases of PENNSYLVANIA were as few and as simple as those of the Indians. The food of the inhabitants was then simple: their only drink was water: their appetites were restrained by labor: religion excluded the influence of sickening passions: private hospitality supplied the want of a public hospital: nature was their only nurse: temperance their principal physician. But I must not dwell upon this retrospect of primeval manners: and I am too strongly impressed with a hope of a revival of such happy days, to pronounce them the golden age of our province.

OUR esteem for the customs of our savage neighbours will be lessened when

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we add, that civilization does not preclude the honors of old age. The proportion of old people is much greater among civilized, than among savage nations. It would be easy to decide this assertion in our favor, by appealing to facts in the natural histories of Britain, Norway, Sweden, the province of Connecticut; and several of the West-India islands.
(k k)

THE laws of decency and nature, are not necessarily abolished by the customs of civilized nations. In many of these, we read of women among whom nature alone still performs the office of a midwife (l l) — and who feel the obligations of suckling their children; to be equally binding with the common obligations of morality.

CIVILIZATION does not render us less fit for the necessary hardships of war. We read of armies of civilized nations, who have endured degrees of cold, hunger and fatigue, which have not been exceeded by the savages of any country.
(m m),

CIVIL-

CIVILIZATION does not always multiply the avenues of death. It appears from the bills of mortality, of many countries, that fewer in proportion die among civilized, than among savage nations. (n n)

EVEN the charms of beauty are not necessarily given up in civilization. We read of stateliness, proportion, and fine complexions in both sexes, forming the principal outlines of national characters.

THE danger of many diseases, is not proportioned to their violence, but to their duration. America has advanced but a few paces in luxury and effeminacy. There is yet strength enough in her vitals, to give life to those parts which are decayed. She may recal her steps. — For this purpose,

I. LET our children be educated in a manner more agreeable to nature.

II. LET the common people (who constitute the wealth and strength of our country) be preserved from the effects of intem-

intemperance. The increase of the price of spirituous liquors for this purpose, is a remedy as unequal to the design, as it is destructive to liberty and commerce. Sir William Temple tells us, that in Spain no man can be admitted as an evidence in court, who has once been convicted of drunkenness. I do not call for so severe a law in this country. Let us first try the force of severe manners. Lycurgus governed more by these, than by his laws. "*Bonæ mores non bonæ leges,*" according to Tacitus, were the bulwarks of virtue among the ancient Germans.

III. LET us be cautious what kind of manufactures we admit among us. What is patriotism in one country may be treason in another. The same public spirit which leads a Hollander to promote all kinds of manufactories in his country overgrown with inhabitants, should lead us to oppose them, as hurtful to the true interest of our own. The rickets made their first appearance in the manufacturing towns in England. Dr. Fothergill informed me, that he had often observed, when a pupil, that the greatest part of the

the chronic patients in the London-Hospital were Spitalfield weavers. I would not be understood, from these facts, to discourage those manufactures which employ women and children: these suffer few inconveniencies from a sedentary life: nor do I mean to offer the least restraint to those manufactories among men, which admit of free air and the exercise of all their limbs.

IV. I DESPAIR of being able to call the votaries of Bacchus from their bottle, and shall therefore leave them to be roused by the more eloquent twinges of the gout.

V. I PASS over likewise the ravages which TEA is making upon the health and populousness of our country. Had I a double portion of all that eloquence which has been employed in describing the political evils which lately accompanied this East-India herb, it would be too little to set forth the numerous and complicated diseases which it has introduced among us. To encounter this hydra, re-

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quires an arm accustomed, like that of Hercules, to vanquish monsters.

THE population of a country is not to be accomplished by rewards and punishments. And it is happy for America, that the universal prevalence of the protestant religion—the checks lately given to negro slavery—the general unwillingness among us to acknowledge the usurpations of primogeniture—the addition of Canada to the British empire—the universal practice of inoculation for the small-pox—and the absence of the plague, render the interposition of government for that purpose unnecessary.

THESE advantages can only be secured to our country by AGRICULTURE. This is the true basis of national health, riches and populousness. Nations, like individuals, never rise higher than when they are ignorant whither they are tending. It is impossible to tell from history, what will be the effects of agriculture—industry—temperance and commerce, urged

on by the competition of colonies, united in the same general pursuits, in a country, which, for extent—variety of soil—climate—and number of navigable rivers, has never been equalled in any quarter of the globe. America is the theatre where human nature will probably receive her last and principal literary, civil and military honors.

BUT I recall myself from the ages of futurity. The province of Pennsylvania has already showed her sister colonies, the influence of agriculture and commerce upon the number and happiness of a people. It is scarcely an hundred years since our illustrious legislator, with a handful of men, landed upon these shores. Although the perfection of our government, the healthiness of our climate, and the fertility of our soil, seemed to ensure a rapid settlement of the province; yet it would have required a prescience bordering upon divine, to have foretold, that in such a short space of time, the province would contain above 300,000 inhabitants; and that near 30,000 of this number should compose a city, which

which should be the third, if not the second in commerce in the British empire. The pursuits of literature, require leisure and a total recess from clearing forests, planting, building, and all the common toils of settling a new country : But before these arduous works were accomplished, the SCIENCES, ever fond of the company of liberty and industry, chose this spot for the seat of their empire in this new world. Our COLLEGE, so catholic in its foundation, and extensive in its objects, already sees her sons executing offices in the highest departments of society. I have now the honor of speaking in the presence of a most respectable number of philosophers — physicians — astronomers — botanists — patriots — and legislators; many of whom have already seized the prizes of honor, which their ancestors had allotted to a much later posterity. Our first offering had scarcely found its way into the temple of fame, when the oldest societies in Europe turned their eyes upon us, expecting with impatience to see the mighty fabric of science, which like a well built arch, can only rest upon the whole of
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its materials, completely finished from the treasures of this unexplored quarter of the globe.

It reflects equal honor upon our society and the honourable assembly of our province, to acknowledge, that we have always found the latter willing to encourage by their patronage, and reward by their liberality, all our schemes for promoting useful knowledge. What may we not expect from this harmony between the sciences and government! Methinks I see canals cut — rivers once impassable, rendered navigable—bridges erected — and roads improved, to facilitate the exportation of grain.—I see the banks of our rivers vieing in fruitfulness with the banks of the river of Egypt.—I behold our farmers, nobles—our merchants, princes.—But I forbear—Imagination cannot swell with the subject.

I BEG leave to conclude, by deriving an argument from our connection with the legislature, to remind my auditors of the duty they owe to the society. Patriotism and literature are here connected

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together;

together ; and a man cannot neglect the one, without being destitute of the other. Nature and our ancestors have completed their works among us ; and have left us nothing to do, but to enlarge and perpetuate our own happiness.

AN

APPENDIX:

CONTAINING

PROOFS

AND

ILLUSTRATIONS.

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A P P E N D I X.

(a) Page 17.

CÆSAR, in his history of the Gallic war, gives the same account of the ancient Germans.

His words are: " Qui diutissime impuberes permanferunt, maximam inter fuos ferunt laudem: hoc ali ftaturam, ali vires, nervosque confirmari putant." Lib. vi. xxi.

(b) p. 19.

SINCE the intercourse of the white people with the Indians, we find some of them deformed in their limbs. This deformity, upon enquiry, appears to be produced by thofe accidents, quarrels,
&c.

&c. which have been introduced among them by spirituous liquors.

(c) p. 24.

MURATORI, in his antiquities of Italy in the middle ages, describes the greatest part of Europe as overflowed with water. The physicians and historians of those ages, are full of the physical and political miseries which prevailed during those centuries. The whole of the diseases we have mentioned, raged at one time in all the countries of Europe. In the ninth century, there were 19,000 hospitals for lepers only, in Christendom. Lewis VIII. king of France, in the year 1227, bequeathed legacies to 2000 leprous hospitals in his own kingdom. The same diet, and the same dampness of soil and air, produced the same effects in South-America. The venereal disease probably made its appearance at the same time, in South-America and Naples. *Précis de l'Histoire physique des tems*, par M. Raymond. The leprosy and scurvy still prevail in the northern parts of Europe, where the manner of living, among

among the inhabitants, still bears some resemblance to that which prevailed in the middle centuries. Pontoppidan's Natural Hist. of Norway. Between the years 1006 and 1680, we read of the plague being epidemic fifty-two times throughout all Europe. The situation of Europe is well known during the fourteenth century : every country was in arms ; agriculture was neglected ; nourishment of all kinds was scanty and unwholesome ; no wonder, therefore, that we read of the plague being fourteen times epidemic in Europe during that period. In proportion as the nations of Europe have civilized, and cultivated the earth, together with the arts of peace, this disorder has gradually mitigated. It prevailed only six times in the sixteenth, and five times in the seventeenth centuries : it made its last general appearance in the year 1680 : it has occasionally visited several cities in Europe within the last century ; but has raged with much less violence than formerly. It is highly probable its very existence would be destroyed, could the inhabitants of Turkey (where it is at all times endemic) be prevailed upon to use
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the same precautions to prevent its spreading, which have been found successful in other parts of Europe. The English, and other foreigners, who reside at Constantinople, escape the plague more by avoiding all intercourse with persons — houses — cloaths, &c. infected with the disorder, than by any peculiarities in their diet or manners. That the use of wine alone does not preserve them from the infection, we learn from the history of the Armenians, who drink large quantities of wine; and yet, from their belief in the doctrine of fatalism, perish in the same proportion as the Turks.

(d) p. 27.

“ LICET enim commotio ista [febris] perturbato circulationis systemate, gravibusque symptomatis molesta, haud raro perniciem inferat, hinc merito morbus appelletur; sæpe tamen et *mirifice* adeo *salutaris* est, ut certius aliud potentiusve cum ad sanandos, tum ad præcavendos morbos auxillium natura, vel ars, vix agnos-

agnoscat. Gaubii Institutiones Patholog.
lib. 8. cap. 1. §. 1. 1747.

(e) p. 31.

It has been remarked, that the inter-
mitting fevers which follow the building
of a grist-mill, appear only on the west
side of the mill-dam: this is probably
occasioned by our easterly winds (which
carry the exhalations) being generally
accompanied with rain. Formerly, in-
termittent fevers were confined to the
shores of Susquehanna — Schuylkill —
and the other rivers of our province;
but since the country has been so much
cleared of woods, we often meet with
them eight or ten miles from the rivers.

(f) p. 33.

I CANNOT help suspecting the antive-
nereal qualities of the lobelia—ceanothus
and ramunculus, spoken of by Mr. Kalm,
in the memoirs of the Swedish academy.
Mr. Hand informed me, that the Indians
rely chiefly upon a plentiful use of the
decotions of the pine-trees, against the

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vene-

venereal disease. He added moreover, that he had often known it prove fatal to them.

(g) p. 39.

"MARRIED women are more healthy and long-lived than single women. The registers, examined by Mr. Muret, confirm this observation; and show particularly, that of equal numbers of single and married women between fifteen and twenty-five years of age, more of the former died than of the latter, in the proportion of two to one: the consequence, therefore, of following nature, must be favourable to health among the female sex." Supplement to Price's Observations on Reversionary Payments. p. 357.

(h) p. 46.

THE modern writers upon the diseases of armies, wonder that the Greek and Roman physicians have left us nothing upon that subject. But may not *most* of the diseases of armies, be produced by the

the different manner in which wars are carried on by modern nations? The discoveries in geography, by extending the field of war, expose soldiers to many diseases from long voyages, and a sudden change of climate; which were unknown to the armies of former ages. Moreover, the form of the weapons, and the variety in the military exercises of the Grecian and Roman armies, gave a vigor to the constitution, which can never be acquired by the use of muskets, and artillery.

(i) P. 40.

The Hon. Dr. Young, a curious botanist, and ingenious physician at St. Vincent's, took a particular account of the height—age—and temperament of each of the soldiers that arrived in that island, in the late war that was carried on against the Caribbs; and upon examining his list at the close of the war, he has ascertained, with a good deal of exactness, the figures—ages—and constitutions of men, which are most proper
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for the West-India climate. When he has added a few more facts to his calculation, we hear he intends to oblige the public with a sight of it.

(k) p. 51.

THE uniformity in the signs of diseases so carefully described by Hippocrates, was produced by the uniformity of the climate of Greece. Dr. Sydenham long ago complained of the variety in the signs of diseases, which was produced by the variable climate of Britain. The same variety, together with the gradual changes of the climate in North America, render it impossible to perfect the Hippocratic art in this country.

(l) p. 51.

DR. CULLEN used to inform his pupils, that after forty years experience, he could find no relation between his observations on the pulse, and those made by Dr. Solano. The climate and customs

customs of the people in Spain being so different from the climate and customs of the present inhabitants of Britain, may account for the diversity of their observations. Dr. Heberden's remarks upon the pulse, in the second volume of the Medical Transactions, are calculated to show how little the present state, or issue of diseases can be learnt from it.

(m) p. 51.

THE urine has been examined by physicians, with the same scrutiny as if it was the book of fate, or possessed of the power of Aaron's breastplate; virginity, conception, and fruitfulness, have been decided by it *. It indicates the degree and duration of simple diseases; each of which may be determined by less equivocal signs. But where shall we find diseases so simple, as not to be, in some measure, influenced by some peculiar custom of civilized life? In diseases which are of a mixed nature, or altogether artificial, so many circumstances from diet and drink

Sir Thomas Brown.

— drinks — exercise — passions of the mind — and temperature of the air, alter the color, consistence and quantity of the urine, that the wisest physicians of the present day have agreed, that neither the diagnosis or prognosis of diseases can be improved by the nicest observations that can be made upon it,

(n) p. 51.

THE crisis of fevers is generally accompanied with sweating; which is now looked upon as the effect, and not the cause of the solution of the disease. But there are fevers which terminate favourably without sweating. Wintringham Comment. Nosolog. "Experience, not reason, (says Dr. Sydenham) teaches what kind of fever is to be cured by sweats, and what by purging and the like: yea, we may suppose, that there are some sorts of fevers which nature cures by a peculiar method of her own, without any visible evacuation." Sect. v. chap. 11. There are fevers in which general sweats usher in death, while the physician is expecting from them a hap-

py solution of the disease. Morgagni de
Causis & sedibus Morborum. Epil. vii.

ii. 16. (o) p. 51.

"The scurvy is very frequent in Hol-
land; and draws its origin partly from
their strong food—sea-fish—and smok-
ed flesh, and partly from their dense and
moist air, together with their bad wa-
ter." Hoffman on Endemial Distem-
pers.

"We are now in North-Holland; and
I have never seen, among so few people,
so many infected with the leprosy as here.
They say the reason is, because they eat
so much fish," Howell's Familiar Let-
ters.

(p) p. 52.

We may learn from these observa-
tions, the great impropriety of those
Egyptian laws which oblige physicians to
adopt, in all cases, the prescriptions which
had been collected, and approved of, by
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the physicians of former ages. Every change in the customs of civilized nations, produces a change in their diseases, which calls for a change in their remedies. What havock would plentiful bleeding, purging, and small-beer, formerly used with so much success by Dr. Sydenham in the cure of fevers, now make upon the enfeebled citizens of London! The fevers of the same, and of more southern latitudes, still admit of such antiphlogistic remedies. In the room of these, bark — wine, and other cordial medicines, are prescribed in London in almost every kind of fever.

(q) p. 54.

In the most refined and spiritual modes of worship among Protestants, we find many people still leaning upon some of the peculiar tenets of the church of Rome, under a new or hidden form. In like manner, we find among regular bred physicians some who still lean upon the practices of quackery, without being conscious how much in so doing they

they undervalue and injure our profession. Physic, like religion, will not suffer by undeceiving the common people. On the contrary, by acknowledging the imperfections of our science, we invite the professors of every other branch of philosophy to unite their enquiries with ours, to bring it to perfection. It would require a volume to mention all the mischiefs which the archæus—the pleura furens—the anima medica—and the acid, alkaline and muriatic humors have done in medicine. Each of these, like the hot regimen in the small-pox, has slain its thousands. Even theories, founded upon facts, have done harm by their misapplication. It is necessary to view human errors at the distance of forty or fifty years, to discover their absurdity. Have we more industry, or sagacity, than our ancestors? Are we not obstructed by their prejudices, and difficulties in our researches after truth? It becomes us, therefore, by a modest scepticism in our opinions, to deprecate the censure and ridicule of posterity. The late successful enquiries into the laws of the nervous system, and the theories we have

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built

built upon them, will probably appear like the outlines of a picture, compared with that COMPLETE SYSTEM of phyſic which remains to be unfolded hereafter, when we arrive at a full knowledge of the ſtructure and œconomy of the brain.

"We think our fathers fools—ſo wiſe we grow;

"Our wiſer ſons, no doubt, will think us ſo."

(r) P. 56.

EVEN the influence of CHRISTIAN principles, has not been able to put a ſtop to the mortality introduced among the Indians, by their intercourſe with the Europeans. Dr. Cotton Mather, in a letter to Sir William Aſhurſt, printed in Boſton in the year 1705, ſays, "That about five years before, there were about thirty Indian congregations in the ſouthern parts of the province of Maſſachuſetts-Bay." The ſame author, in his *Hiſtory of New-England*, ſays, "That in the iſlands of Nantucket and Martha's Vineyard there were 3000 adult Indians, 1600 of whom profeſſed the christian

christian religion." At present there is but *one* Indian congregation in the whole Massachusetts province.

It may serve to extend our knowledge of diseases, to remark, that epidemics were often observed to prevail among the Indians in Nantucket, without affecting the white people.

(s) P. 57.

It is said, there are seldom less than 20,000 British subjects in France and Italy; one half of whom reside or travel in those countries upon the account of their health. The loss to the British nation of the money spent in this manner is trifling, compared with the relaxation of national virtues, which is brought on by residing too long among foreigners.

(t) P. 57.

TEMPLEMAN computes, that Scotland contains 1,500,000 inhabitants; 100,000 of whom, according to Mr. Fletcher,
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are supported at the public expence. The proportion of poor people is much greater in England — Ireland — France, and Italy.

(u) p. 58.

In describing the goodness of Providence in providing against natural evils, we are too apt to forget that he has endowed man with *reasonable* and *social* qualities. To suppose that God has provided a *natural* remedy for all the *artificial* diseases, produced by the vice and sloth of mankind, would be as absurd as to suppose, that the final cause of diseases was to afford sustenance to physicians.

(w) p. 60.

For a particular account of the beneficial effects of commerce in civilizing mankind, see Montesquieu's *Spirit of Laws*, book xx. chap. 1. — And Dr. Robertson *Hist. of Charles V.* vol. I. note xxix. — Medicines are a most important link in this chain of commerce; hence we find, that they are generally excepted

ed articles in those suspensions of trade,
which are produced by war.

(x) p. 60.

SINCE the intercourse of the white people with the Indians, they have acquired several of our artificial methods of curing diseases, particularly the art of phlebotomy. What Indian remedies ever equalled the efficacy of bleeding—and a blister to the side, for the cure of the pleurisy?

(y) p. 61.

WHEN nature is banished from every thing, it is high time for priests to enter into the temple of Lucina. When the female constitution is so enervated, that child-bearing becomes a work of art, the office should be entrusted to persons possessed of more knowledge and intrepidity, than generally fall to the share of midwives. In the enervated age of Athens, a law was passed which confined the practice of midwifery only to the men: it was, however, repealed, upon a

woman's dying in childbirth, rather than be delivered by a man-midwife. It appears from the bills of mortality in London and Dublin, that about one in seventy of those women die in childbirth, who are in the hands of midwives; but from the accounts of the lying-in hospitals in those cities, which are under the care of man-midwives, only one in an hundred and forty perishes in childbirth.

(z) p. 61.

THERE has been much common-place declamation against the custom among the great, of not suckling their children. Nurses were common in Rome, in the declension of the empire:—hence we find Cornelia commended as a rare example of maternal virtue, as much for suckling her sons, as for teaching them eloquence. That nurses were common in Egypt, is probable from the contract which Pharaoh's daughter made with the unknown mother of Moses, to allow her wages for suckling her own child. The same degrees of civilization, require the same customs. A woman, whose
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constitution has been enfeebled by the fashionable customs of pregnancy, and whose times for eating, sleeping, &c. are constantly interrupted by the calls of enervating pleasures, must always afford milk of an unwholesome nature. It may truly be said of a child doomed to live on this aliment, that as soon as it receives its

breath,
It sucks in "the lurking principles of death."

(aa) p. 61.

Our diet should be either *altogether* natural or artificial. When the digestive organs are relaxed by habits of indolence and intemperance, milk and vegetables should be banished from our tables. Our animal food should be prepared for digestion, by a slight putrefaction; and large sideboards of wine, spices, &c. should supply the want of the natural tone and juices of the stomach, to enable us to digest it.

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(b b) p. 61.

WE repair the ravages of diseases, by artificial hair — eyes — teeth — and even limbs. When we consider how great a proportion of beauty a fine complexion forms in a female face; wherein consists the impropriety of repairing the natural want of this complexion, by having recourse to art? The taste for beauty is universal; and remains uncorrupted, after the simplicity and love of nature are banished from every thing else in society. — Our prejudices against this custom, should be founded chiefly upon the mischief which the different paints, that have been applied to the face, have done to the constitution.

(c c) p. 62.

I SHALL beg leave, in this place, to transcribe a few sentences from Montesquieu's Spirit of Laws, upon the subject of hospitals.

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“AURENGZEBE, Emperor of Persia, being asked, Why he did not build hospitals, said, *I will make my empire so rich, that there shall be no need of hospitals.* He ought to have said, I will begin by rendering my subjects rich, and then I will build hospitals.”

“AT Rome, the hospitals place every one at his ease, except those who labour—those who are industrious—those who have lands, and those who are engaged in trade.”

“I HAVE observed, that wealthy nations have need of hospitals, because fortune subjects them to a thousand accidents; but it is plain, that transient assistances are better than perpetual foundations. The evil is momentary: it is necessary, therefore, that the succour should be of the same nature, and that it be applied to particular accidents.”
Spirit of Laws. Book XXIII. chap. 29.

(A d) p. 62.

THE first regular practitioners of physic in Rome, were women and slaves. The profession was confined to them above six hundred years. The Romans during this period lived chiefly upon vegetables, particularly upon PULSE; and hence they were called, by their neighbours, PULCIFAGI. They were likewise early inured to the healthy employments of war and husbandry. Their diseases, of course, were too few and simple to render the cure of them an object of a liberal profession. When their diseases became more numerous and complicated, their investigation and cure required the aids of philosophy. The profession from this time became liberal; and maintained a rank with the other professions, which are founded upon the imperfection and depravity of human institutions. Physicians are as necessary in the advanced stages of society, as surgeons, although their office is less ancient and certain. There are many artificial diseases, in which

which they give certain relief; and even where their art fails, their prescriptions are still necessary, in order to smooth the avenues of death.

(e e) p. 62.

HOSPITALS were intended originally to accommodate strangers, who might happen to meet with accidents: they are therefore necessary in all large and commercial cities. Philadelphia claims the honor of being the first and only city in America, that has founded an institution for that purpose. The Pennsylvania-Hospital is as perfect as the wisdom and benevolence of man can make it. The following account, drawn up by the judicious Mr. James Hutchinson, the apothecary of the hospital, of some of the diseases of the patients, who were admitted into it between February 24, 1773 and the 24th of the same month 1774, may serve to show the other cities in America how far our example is worthy of their imitation. Out of 435 patients, only thirty were admitted upon the account of accidents: 138 were afflicted

flitted with fevers; in which are included, hæmorrhages and dysenteries: 152 were admitted with dropfies—fore legs—and the lues; diseases evidently brought on by debauchery. For the credit of our city, it is necessary to add, that many of the last number were strangers; particularly sailors, who were allured to our hospital from all parts of the continent.

It will not be foreign to our subject to take notice in this place, that the air—diet, and attendance in hospitals, render them extremely improper in fevers; hence we always find them attended with more malignity or obstinacy in such places, than in private houses. The author of the “Police of France” says, that one-fifth of the patients die, who are sent to the Hotel Dieu; and supposes, that one-third of the people who die in Paris every year, perish in hospitals. It must be acknowledged however, that much of this mortality in the hospitals in Paris, is occasioned by the patients being too much crowded together; for in St. Thomas and St. Bartholomew’s Hospitals in London, where the patients
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are less crouded, and better accommodated with nurses—physicians—diet, &c. only one-thirteenth of them die. In the Pennsylvania Hospital the proportion is somewhat less. The Roman Emperor VALENTINIAN supported fourteen physicians at the public expence, to take care of the poor, in the city of Rome, at their own houses. The same practice has been since adopted in many countries, with singular advantages to individuals and the community: the most considerable to the former, is the preservation of an *independance of spirit*; which is always laid aside after a patient has had his poverty exposed to public view in an hospital. Nothing abridges a man more of his liberty, than a sense of his obligations to the public. It was probably to maintain a spirit of freedom, so essential to just sentiments and actions, that our Saviour enjoins us not to let our left-hand know what our right-hand does, in our acts of charity: it is in other words, to command us, not to make a slave of a fellow-creature. A German prince, whose extraordinary character

character has long fixed the attention of all Europe, has forbidden, from an affected sympathy, the operation of amputation to be performed upon the limbs of his soldiers, who are wounded in battle. The design of this edict is to relieve the state from the burthen of supporting a number of useless members. A virtuous man with but one limb, never burdened any society. A maimed but industrious soldier, might be employed in an hundred ways, whereby he might support himself and serve the public. But what advantage does society derive from creatures, whose diseases have been brought on by intemperance; particularly in drinking spirituous liquors? How rarely do we see poor men reformed from this vice! Does not the length of time, which is necessary to cure their diseases, encrease their habits of idleness? Do not these people infect the healthy and the virtuous, with their diseases and vices? Are they not, therefore, to be looked upon as rotten limbs in the political body?—Humanity may plead in their favor, for they are still men; but does not society

ciety suffer by the prolongation of their lives?

(ff) p. 63.

Moist climates may encrease, but we have no reason to believe that they dispose to consumptions. In proportion as we become enervated, we may expect this disorder from accidents, which formerly were attended with no danger. There are many facts which show the infectious nature of consumptions. In Portugal the cloaths, bed, &c. of people, who have died of consumptions, are destroyed. The Italians act as if they believed the infection could be retained and communicated like the Jewish leprosy, by the walls of their houses: — hence a house, in which a consumptive patient has died, often remains uninhabited for a twelvemonth. This disorder has not yet acquired such a degree of malignity among us; but we have many proofs in this city of its being communicated by the breath.

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(gg) p. 63.

IN speaking of the causes of the increase of artificial diseases in Philadelphia, it may not be improper to mention, that there is probably more *flesh meat* eaten in this city, than in any two cities of the same size in the whole world. It is not because our markets do not abound with a plentiful variety of wholesome fish and vegetables.

(h h) p. 64.

THE principal employments of the Jews, like those of the Romans in their simple ages, consisted in war and husbandry. Their diet was plain, consisting chiefly of vegetables. Their only remedies were plasters and ointments; which were calculated for those diseases which are produced by accidents. In proportion as they receded from their simple customs, we find artificial diseases prevail among them. The leprosy made its appearance in their journey through the wilderness. King Aſa's pains in his feet, were

were probably brought on by a fit of the gout. Saul and Nebuchadnezzar were afflicted with a melancholy. In the time of our Saviour, we find an account of all those diseases in Judea, which mark the declension of a people; such as, the palsy—epilepsy—mania—blindness— hæmorrhagia uterina, &c. It is unnecessary to suppose, that they were let loose at this juncture, on purpose to give our Saviour an opportunity of making them the chief subject of his miracles. They had been produced from natural causes, by the gradual depravity of their manners. It is remarkable, that our Saviour chose those artificial diseases for the subject of his miracles, in preference to natural diseases. The efforts of nature, and the operation of medicines, are too slow and uncertain in these cases to detract in the least from the validity of the miracle. He cured Peter's mother-in-law, it is true, of a fever; but to show that the cure was miraculous, the sacred historian adds, (contrary to what is common after a fever) that "the arose immediately, and ministered unto them." Dr. Mead's attempt to account for these cures from natural

causes, is as foreign from the ingenuity of infidelity, as it is from the spirit of true philosophy.

(ii) p. 64.

In the city of Bergen, which consists of 30,000 inhabitants, there is but one physician; who is supported at the expence of the public. — Pontoppidan's Natural Hist. of Norway.

(k k) p. 66.

LONGEVITY, perhaps, depends less upon climate, than upon the practice of simple customs; hence we find the longest lived people in those countries where temperance and industry are practised in the greatest perfection.

It has been urged against the middle and northern colonies of America, that there are fewer old people to be found in them, than in several of the European countries. This has been attributed to the weakness of our stamina; which appears chiefly in the premature DECAY of our

our TEETH. In order to confute this opinion, it will not be foreign to our purpose to enquire into the cause of this disorder, and to show that it is no proof of the weakness of our stamina. 1. Bad teeth are observed in all middle latitudes, which are subject to alternate heats and colds. The inhabitants of Norway and Russia are as remarkable for their sound teeth, as the inhabitants of Africa. 2. The teeth are provided with nerves and blood-vessels; and hence they are subject to inflammation, in common with other parts of the body; and in a more *especial* manner, from the alternate application of hot and cold liquors to them; and from the practice of sleeping with our heads uncovered in the winter season, while, at the same time, every other part of the body is involved in a bath of warm perspiration. 3. The pain and inflammation of the teeth generally precede their decay. The pain is soon succeeded by the ordinary termination of inflammation in a bone, that is by a caries. The carious teeth are afterwards more exposed to inflammation; which generally extends itself to the
sound

found teeth which adjoin them. 4. The tooth-ach happens in the period, and seasons of inflammatory disorders. 5. We observe those people, who are most subject to inflammatory diseases, to be most afflicted with the tooth-ach: hence we find more bad teeth in the country, than in our cities. From these facts we infer, that the decay of the teeth in the Americans, is not occasioned by the peculiar weakness of their stamina. It does not come on in the decline, but in the most robust period of life. It can prove the means of shortening life, only by rendering the mastication of our food less complete. The Europeans, who pass the season for inflammatory diseases in this country, are as subject to the tooth-ach as the Americans. They alone are not subject to it, who arrive here beyond the thirtieth or thirty-sixth year of their lives.

WE may learn from what has been advanced, that sugar—salt—tea—animal food, and spirituous liquors, which have, all in their turns, been accused of rotting the teeth, act only by weakening the system; and thus rendering it more liable

liable to those *partial* colds or inflammations, which precede the decay of the teeth.

It must be allowed, that the teeth sometimes decay without being accompanied with any pain. This must be attributed to a scrophula: — a disease not unknown to the bones in other parts of the body.

I CANNOT dismiss this subject, without suggesting an hint for preventing the teeth from decaying. The Indians, even in the middle latitudes of North-America, while they live agreeable to nature, are never troubled with the least disorder in their teeth; but become subject to the tooth-ach as soon as they accommodate themselves to our modes of life. It is in vain to attempt to harden ourselves against the action of the cold, while we continue enslaved to so many enfeebling customs; This is the reason why the cold bath has often been used for many years to the head, without having any effect in preventing the decay of the teeth. Instead of this; would it

it not be a better practice, to afford the head the same security from the action of of the cold, which we give to the other parts of the body? It is a fashion among both sexes in France, to sleep in LARGE WOOLLEN CAPS. I hope I do not attribute too much to these, when I add, that the French people owe their fine teeth entirely to them.

It has been said further against the state of longevity in America, that the Europeans, who settle among us, generally arrive to a greater age than the Americans. This is not occasioned so much by a peculiar firmness in their stamina, as by an encrease of vigor, which the constitution acquires by a change of climate. A Frenchman (*ceteris paribus*) outlives an Englishman in his own country. An Hollander prolongs his life by removing to the Cape of Good Hope. A Portuguese gains fifteen or twenty years, by removing to Brazil. And there are good reasons to believe, that a North-American would derive the same advantages, in point of health and longevity, by removing to Europe, which an European

ropean derives from coming to this country.

From a calculation made by an ingenious foreigner, it appears, that a greater proportion of old people are to be found in Connecticut, than in any colony in America. This colony contains 180,000 inhabitants. They have no public hospitals or poor houses; nor is a beggar to be seen among them: there cannot be more striking proofs than these facts, of the simplicity of their manners.

It was by the operation of natural causes, that the divine prediction was accomplished, which reduced the ages of the children of Israel so much in the wilderness, that out of 21,200 none of them were above sixty years of age, except Moses—Caleb and Joshua, who had not conformed to the enervating vices of the heathen, among whom they had sojourned.

THE decay of the faculties of the mind in old people, is generally produced by
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some adventitious causes, not necessarily connected with civilization. We find no account of the amentia senilis, or second childhood among the Jews. Moses read without spectacles, when he was 120 years of age; and the inimitable song he composed a little before his death shows, that the historian spoke the truth when he said, that his "natural force was not abated." (II) p. 66.

PARTURITION, in the simple ages of all countries, is performed by nature. The Israelitish women were delivered even without the help of the Egyptian midwives. We read of but one woman who died in childbirth in the whole history of the Jews; and her death was probably brought on by the fatigue of her journey in travelling from Bethel to Ephrath. Dr. Bancroft says, that child-bearing is attended with so little pain in Guiana, that the women seem to be exempted from the curse inflicted upon Eve. These easy births are not confined to

to warm climates. They are equally safe and easy in Norway and Iceland, according to Pontoppidan's and Anderson's natural histories of those countries.

(m m) p. 66.

CIVILIZED nations have, in the end, always conquered savages as much by their ability to bear hardships, as by their superior military skill. Soldiers are not to be chosen indiscriminately. The greatest generals have looked upon sound constitutions to be as essential to soldiers, as bravery or military discipline. Count Saxe refused soldiers born and bred in large cities, and sought for such only as were bred in mountainous countries. The king of Prussia calls young soldiers only to the dangers and honors of the field in his elegant poem, *Sur l'Art de la Guerre*, Chant. I. Old soldiers generally lose the advantages of their veteranism, by their habits of idleness and debauchery. An able general, and experienced officers, will always supply the defect of age in young soldiers.

(n n) p. 67.

BEFORE we compare the state of mortality of savages, with the bills of mortality among civilized nations, we shall premise, that fruitfulness in either sex, is not exchanged for the simple customs of civilization. Civilized, have always been more populous than savage nations. The fruitfulness of the Jews, although the consequence of a divine promise, was produced by the operation of natural causes, which produce the same effects in all countries. Let the unfruitful pair retire for a while from the pursuits and pleasures of a city life: let them visit the cottage of the peasant, or walk along shores inhabited by fishermen, and they will find that stimulating food—wine—spices—physic—voyages to sea, and journies to Bath—Spaw—Black-Point, &c. are not the proper remedies for barrenness; but that they are to be found only in SIMPLE DIET and CONSTANT LABOR.

We

WE have no way of ascertaining the proportion of those who die yearly among the Indians; but we may presume it to be considerable, when we reflect on the mortality they are exposed to from accidents—hunger, and fevers. The effects of these are mitigated, or entirely prevented by civilization. Dr. Price computes, that from one nineteenth or one twentieth to one twenty-third or one twenty-fourth perish yearly in large towns—from one twenty-third to one twenty-eighth in moderate towns, and from one thirtieth or one thirty-fifth to one fiftieth or one sixtieth in country places. The bill of mortality in Boston amounted last year to 533—which is about one thirty-fourth of the number of inhabitants (said to be 18,000) contained in that town. The city of Philadelphia buried last year near 1400: out of these 360 were buried in the Strangers Grave Yard; the chief of whom were strangers from Britain, Ireland, and Germany: they died of fevers contracted on their passage, or soon after their arrival in the city. Many strangers, likewise, from the West-Indies and the southern colonies,

nies, were buried in the church-yards belonging to the different denominations of Christians. The small-pox (which should not be numbered in the stationary diseases of a country) contributed a good deal to swell the last year's bill of mortality. One-fourth of all who died in Christ's and St. Peter's parishes, and in the Scots Presbyterian congregation, perished with that disorder. These circumstances, joined with our uncertainty of the exact number of inhabitants, render it impossible, as yet, to ascertain the proportion who die yearly in Philadelphia.

I HAVE already hinted at the means of restraining the artificial diseases of our city: I shall conclude, by suggesting a few hints for restraining our natural diseases. A large share of these, are composed of the intermitting — remitting — bilious and nervous fevers, which prevail chiefly in the months of August, September, and October. Under the head of these fevers, we include the VOMITING and PURGING of children. It comes on at the same season, is attended with the same symptoms, and

and yields to the same method of cure. These facts are sufficient to show, that it is not a cholera morbus, nor produced by teething or worms.

DISEASES are generated in one season, and produced in another. To prevent this dysenteric fever so fatal to children, they should be sent into the country about the beginning of June, where they should stay till the middle of August, or beginning of September. Their diet, during the sickly months, should be more generous than is consistent with the common rules laid down in our systems of education. It is worthy of notice, that the children of opulent families, who are provided with country seats, and who indulge their children with sipping the remains of a glass of sound wine now and then after dinner, are in some measure exempted from this disorder.

THE intermitting fever prevails chiefly in the suburbs. To guard against this, fires should be made in the common sitting rooms; and great care taken to avoid the night air.

It were to be wished, that strangers would embark for this part of America earlier in the year, so that they might arrive here in the Spring, or beginning of Summer. It has been remarked, that a crew, who have been healthy during the greatest part of their passage, often become sickly when they come upon our coast, or soon after they arrive in the city. This is probably occasioned by their being exposed to exhalations from the land. To avoid these, it would be proper to oblige the passengers to shun the night-air; and, at the same time, to impregnate the hold and deck of the ship with the vapor of vinegar, as also with brimstone — gunpowder — and the other substances commonly used to correct a morbid atmosphere.



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